

### **REMARKS**

The claimed invention addresses the technical problem of providing soft caramels in which the gelatin normally present is replaced by a non-animal substance that has properties such as low elasticity, high water dispersibility, good bodying and texturing properties, good mouthfeel and no characteristic flavor. This has been accomplished by combining a soft caramel base which contains at least one polysaccharide hydrocolloid as texturing agent, crystalline isomaltulose and a noncrystalline sweetener phase. The independent claim recites that the crystalline sweetener phase is isomaltulose, i.e., the only crystalline sweetener present is isomaltulose.

It has been surprisingly established that in this combination, the polysaccharide hydrocolloid has properties that enable the complete replacement of gelatin as texturing agent in soft caramels while retaining the special texture and consistency of the soft caramels. Moreover, the temperature stability of crystalline isomaltulose can be insufficient. See, e.g., "Coloration and Other Chemical Changes in the Manufacture of Palatinose Candy", and "Application for the Approval of Isomaltulose", both of record, which show that crystalline isomaltulose is heat-sensitive, shown by discoloration, at temperatures over 100°C, such as used in preparation of the instant product (Example 1), and especially over 120°C used in the examples of Barrett reference. Surprisingly, the temperature stability of crystalline isomaltulose is considerably improved by stabilizing effect of the polysaccharide hydrocolloids in the claimed combination. These aspects of the invention are unexpected and unpredictable.

The rejection of claims 30-35, 38-42, 44-47 and 49 under 35 USC § 103 over Barrett in view of Takazoe or Koji is respectfully traversed.

Barrett discloses a chewy confectionary product in which gelatin has been completely replaced by oxidized starch and which contains sugar or a sugar substitute, or both. Among the substituted sugars mentioned is Isomalt, a mixture of alcohols resulting from the hydrogenation of isomaltulose. There is no teaching or suggestion of the use of isomaltulose, which is a single compound, namely the disaccharide 6-O- $\alpha$ -D-glucopyranosyl-D-fructose. The Examiner previously acknowledged this deficiency exists. All of the examples in Barrett employ a single sweetener which is either sucrose or crystalline sucrose.

Takazoe teaches a sweetener which is a mixture of sucrose and palatinose, which mixture is "usually crystalline." It is disclosed that adding isomaltulose to sucrose prevents the formation of insoluble glucan from sucrose and controls the cariogenic action of sucrose. Column 2, lines 19-22. Takazoe also teaches that the sucrose must be more than about three times the amount of isomaltulose, saying at column 4, lines 23-26 that "when more than 35 parts of palatinose is used to 100 parts of sucrose, the deposition of the crystals of sugar occurs, the texture of products becomes coarse, and tastiness is reduced." There is no teaching or suggestion in this reference of using crystalline isomaltulose in the absence of sucrose, and in fact, the isomaltulose is being used only because of its effect on sucrose. In the present invention, isomaltulose is the only crystalline sweetener present. Nothing in Takazoe suggests a composition which is so characterized. Nothing in Takazoe suggests the combination of crystalline isomaltulose with a non-crystalline sweetener in the absence of another crystalline sweetener, nor is there any suggestion that the temperature stability of crystalline isomaltulose can be considerably improved by stabilizing effect of the polysaccharide hydrocolloids in that combination.

Koji, like Takazoe, teaches crystalline isomaltulose exists. Here also, there is no teaching or suggestion of using crystalline isomaltulose in the absence of another crystalline sweetener. In Koji, that additional sweetener is sorbitol, a sugar which, contrary to the assertion on page 3 of the Office Action<sup>1</sup>, is well known to be crystalline. See, e.g., the entry in the Condensed Chemical Dictionary attached. There is, as in Takazoe, no teaching or suggestion of combining crystalline isomaltulose with a non-crystalline sweetener in the absence of another crystalline sweetener, nor is there any suggestion that the temperature stability of crystalline isomaltulose can be considerably improved by stabilizing effect of the polysaccharide hydrocolloids in that combination.

The combination of the three references do not teach or suggest combining polysaccharide hydrocolloid and crystalline isomaltulose as the only crystalline sweetener with a non-crystalline sweetener for any reason. The combined references do not suggest that in the claimed combination, the polysaccharide hydrocolloids can completely replace gelatin in soft caramels while retaining its special texture and consistency, and also have a temperature stabilizing effect on crystalline isomaltulose. These aspects of the invention are unexpected, unpredictable and render the claimed combination unobvious.

Beyond the foregoing, the water content in a soft caramel and the allocation of the water between the crystalline and non-crystalline sweetener phases has an important influence on the texture and consistency of the product. Crystalline isomaltulose is a hydrate and it therefore changes the water content if isomaltulose is used instead of sucrose. During production, the isomaltulose in the soft caramel melts and emits part of its water of crystallization into the non-crystalline phase. The effect of this water release is

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<sup>1</sup> The translation provided by the Examiner is extremely hard to read, but does not appear to suggest sorbitol is crystalline. Should the rejection not be withdrawn, a better copy is respectfully requested.

not predictable and therefore a skilled person would have no reasonable expectation of success of achieving an acceptable texture and consistency of the soft caramel if isomaltulose replaced all of the sucrose as, for example, in Barrett.

The rejection of claims 36, 37, 43, 48, 50 and 61 under 35 USC § 103 over Barrett in view of Takazoe or Koji and Willibald is respectfully traversed.

The combination of Barrett, Takazoe and Koji has been discussed above, and Willibald has not been cited to overcome the deficiencies of that combination. Since those deficiencies remain, the additional reliance on Willibald cannot render these dependent claims unpatentable.

In light of the foregoing, it is respectfully submitted that this application is now in condition to be allowed and the early issuance of a Notice of Allowance is respectfully solicited.

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Respectfully submitted,

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